These glands of the cervix become obliterated during pregnancy, and constitute cysts or Naboth's ovules. But delivery replaces matters as they were by rupturing the cysts during its progress or during the subsequent retraction of the uterus. 5. The cervix of the uterus is erectile, entering into the condition of erection simultaneous with the other erectile female organs, and partially opening to enable the uterine fluid to issue.—*Med. Times and Gaz.*, Nov. 27, 1869.

6. *The Presence of Sulphocyanides in the Blood and Urine.*—Dr. LEARED, in a paper read before the Royal Society (*Proceedings of Royal Society*, No. 114, 1869), states that from the examination of the saliva of fifty individuals taken consecutively, he has established that in the saliva of the great majority of persons a red colour is struck with perchloride of iron, a reaction which is due to the presence of sulphocyanide of potassium. It was ascertained that the existence of carious teeth is not requisite for the production of this reaction, because it occurred in many instances in which all the teeth were sound; also that tobacco-smoking was not indispensable, because the colour was produced in many cases in which the individuals never used tobacco. It was also remarked that in all the cases in which the absence of the sulphocyanide was noted, although no definite disease was apparent, the health was feeble, and that, on the other hand, a marked reaction with iron usually corresponded with the ordinary indications of sound health.

Dr. Leared has detected a sulphocyanide in the urine averaging about one-eighth of a grain in sixteen ounces of normal urine—and also in the blood of man and all other vertebrate animals. As far as he has been able to determine the sulphocyanides exist only in the serum, and this leads Dr. Leared "to the consideration of that much-vexed question, the cause of the red colour of the blood. So far as concerns exact colour, nothing more closely resembles blood than a solution of sulphocyanide of iron. This is *primâ facie* evidence that red blood owes its colour to this iron compound. The iron is known to be localized in the globules. These are surrounded by a fluid containing sulphocyanic acid in a combination which easily yields the acid when required. Such is the theory at present suggested."

"I am not unaware of the difficulties in the way of its acceptance. The colour of hæmatin cannot, it is said, depend upon the iron it contains, because nearly the whole of the iron may be removed without affecting the colour of the hæmatin."[1] But it is not stated that all the iron is ever removed, and it may be that a very small proportion suffices for the formation of the colour, while the larger proportion of the metal is held in reserve in the globules in the same manner as sulphocyanic acid appears to be in the serum.

If Dr. Leared's experiments have been rightly interpreted, it is certain that sulphocyanide of potassium or sodium is not a mere product of the salivary glands.

Carefully conducted experiments proved that sulphocyanide of potassium neither possesses the power of preventing ordinary fermentation nor that of checking it when already in action, but that it does possess an antiseptic power; but whether or not this property comes into operation in the alimentary canal is a question not yet decided.

7. *Urine of the Infant.*—Dr. POLLACK (*Jahrb. f. Kinderheilk.* New Series, II.) gives the general results of his examination of the urine in a large number of infants at the breast, aged between eight days and two and a half months. The urine from the males was received in an appropriate utensil, and from the females it was drawn off by the catheter. The quantity varied between 250 to 410 CC. It gave an acid reaction. The quantity passed in twenty-four hours varied from 1 to 2 grm. The uric acid in the twenty-four hours is relatively increased from 0.1 to 0.2 grm. per diem. The inorganic salts are present, but in less quantity than in those of a more advanced age, particularly the earthy

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[1] Elements of Chemistry by W. Miller, M. D., 3d edit. p. 872.

phosphates. The urine, in its normal state, of the suckling has a cloudy appearance, from an admixture of mucus. In early infancy the urine has also a much larger amount of sugar than that of the adult, in consequence of the rich saccharine character of the mother's milk. The small quantity of the phosphates, and of the results of the decomposition of albumen in the urine of infancy, results from the fact that these constitute the materials requisite to the building up of the body, and hence are retained in the organism.—*Centralblatt. f. d. Med. Wissenschftn.*, Jan. 1869, No. 7. D. F. C.

MATERIA MEDICA, GENERAL THERAPEUTICS AND PHARMACY.

8. *Hydrate of Chloral.*—This article has been known to chemists for more than thirty years, but has never been used as a medicine until very recently, when Prof. LIEBREICH, of Berlin, struck with the reaction which takes place in the presence of alkalies, which decompose it into formic acid and chloroform, was induced to hope that the same reaction would take place when it was introduced into the system between it and the alkalies of the animal economy, and thus produce gradually the effects of chloroform. Led by this idea he instituted experiments upon frogs and other animals, and found that it produced in all of them similar results, viz., deep hypnotism, reflex movements of excitement, then entire loss of motion. Restoration afterwards was complete without any stage of excitement. When the dose was too large, the animals died from cardiac paralysis.

Liebreich afterwards studied its effects on man at the Charity Hospital, Berlin. 1.35 gramme by hypodermic injection induced sleep in five minutes in an insane person, which continued for five hours; 3.50 gr. in a glass of water, induced calm sleep in a melancholic man, which continued for sixteen hours.

Langenbeck relates a case of delirium tremens with comminuted fracture of the arm, in which large doses of opium gave no relief. Four grammes of the hydrate of chloral taken internally, and two hypodermic injections of two grammes each, produced a long and quiet sleep.

Dr. B. W. Richardson, of London, repeated the experiments of Liebreich, and in our previous No., p. 538 *et seq.*, will be found a summary of his investigations. This last eminent physiologist has since extended his researches, and in his lectures on Experimental and Practical Medicine (*Med. Times and Gaz.*, November 6, 1969), gives the following summary of the conclusions he has come to from experiments with the article:—

"The effects of hydrate of chloral may be summed up as follows:—

"(*a*) Deep and prolonged narcotism can be safely produced by the hydrate of chloral.

"(*b*) During a portion of the period of narcotism there may be complete anæsthesia with absence of reflex actions, and a condition in which every kind of operation fails to call forth consciousness.

"(*c*) During the narcotism there are intervals of apparent exalted sensibility.

"(*d*) In the transition from drowsiness to stupor there is no stage of muscular excitement, but in birds there is vomiting, as is common in the same animal in the second stage of narcotism under chloroform.

"(*e*) During the narcotism produced by the substance there is invariably reduction of temperature.

"(*f*) The hydrate produces muscular relaxation, which relaxation extends to the muscles of volition and alike to the iris and the muscular arterial system. From the condition of the muscles after death we may infer that this paralysis is in part due to change within the muscular structure itself.

"(*g*) The action of the substance on the nervous system is primarily on the sympathetic ganglia, afterwards on the cerebrum, and finally on the heart.

"(*h*) Recovery, when it takes place, is followed by no bad results.